Space Weather Forecast

Issued on Sunday, 13 February 2022 at 00:22 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Reducing Chance of Minor R1 Radio Blackout.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity was Moderate with a Moderate-class X-ray flare observed from the vicinity of a new sunspot region at 12/0844UTC near the southwestern solar horizon. X-ray flares were otherwise mostly modest in size from well-spread sunspot groups occupying the western horizon. There are currently four sunspots on the facing side of the sun, These groups include the largest on the disc - in the northwest quadrant The past 24 hours have seen numerous apparently minor Coronal Mass Ejections (CMEs) on available satellite imagery. and none are likely to be earth-directed

Solar Wind / Geomagnetic Activity: Solar winds were elevated throughout the period with a peak of 600 km/s observed at 12/0459 UTC. The magnetic field was Weak. The net result of the above solar wind measures was Quiet to Unsettled geomagnetic activity

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is forecast to start Moderate becoming mostly Low for much of the next four day period. Sunspot regions are expected to be in a state of flux in the period, with numerous departures and arrivals, and confidence is therefore rather low.

Solar Wind / Geomagnetic Activity: No CMEs feature in this forecast period, although confidence in this is somewhat lower than usual owing to imagery gaps. Geomagnetic activity is likely to be Quiet to unsettled, with the greatest chance of Active intervals on days 1 and 2 (13 and 14 Feb).

Energetic Particles / Solar Radiation: High energy proton flux is most likely to remain at background levels, but with a daily Slight Chance of S1.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Met Office Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	5	1	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	25	25	15	10
Very Active	R3 to R5 X	No	2	2	2	2

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	2	2	2	1
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

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